

	English/Language Arts	Mathematics	Social Studies
ACTIVITY			
Check It Out! (3)			
Idea Pools (7)	6.1.1, 6.2.3, 6.2.4, 6.4.1, 6.4.4, 6.4.5, 6.5.7, 6.6.1, 6.7.4, 6.7.5, 6.7.11		
Let's Work Together (9)			
Water Actions (12)	6.1.1, 6.2.1, 6.2.4, 6.2.7, 6.4.1, 6.4.2, 6.4.3, 6.4.4, 6.4.5, 6.5.2, 6.5.3, 6.5.5, 6.6.1, 6.5.7, 6.7.4, 6.7.5, 6.7.6, 6.7.11, 6.7.13, 6.1.14		6.1.19, 6.1.21, 6.3.13, 6.3.14, 6.3.15, 6.3.16
Water Log (19)	6.4.1, 6.4.5		
Adventures In Density (25)	6.1.1, 6.2.7, 6.7.11, 6.7.12	6.5.1	
H ₂ O Olympics (30)	6.1.1	6.5.1, 6.6.1	
Hangin' Together (35)	6.1.1, 6.4.3, 6.5.2, 6.5.7, 6.6.1		
Is There Water On Zork? (43)	6.1.5, 6.4.3, 6.5.2, 6.5.7, 6.6.1	6.6.1	
What's The Solution? (54)	6.1.1, 6.1.4, 6.2.7, 6.4.3, 6.5.1, 6.5.2, 6.5.7, 6.6.1		
Let's Even Things Out (72)	6.1.1, 6.4.3, 6.5.3, 6.5.7, 6.6.1		
Life In The Fast Lane (79)	6.1.1, 6.4.5, 6.5.2, 6.5.3, 6.5.7, 6.6.1		
No Bellyachers (85)	6.4.1, 6.7.4, 6.7.11, 6.7.14		
People Of The Bog (89)	6.1.1, 6.4.1, 6.4.4, 6.4.5, 6.5.2, 6.5.3, 6.5.7, 6.6.1		
Poison Pump (93)	6.1.1, 6.4.1, 6.7.14		
Super Sleuths (107)	6.1.1, 6.4.5		6.3.3
Thirsty Plants (116)	6.5.2, 6.5.7, 6.6.1	6.5.1, 6.6.1	
Water Address (122)	6.1.1, 6.4.1, 6.4.5, 6.5.2, 6.6.1		
Branching Out! (129)	6.4.3, 6.5.2, 6.5.7, 6.6.1		

	English/Language Arts	Mathematics	Social Studies
ACTIVITY			
Get The Ground Water Picture (136)	6.1.1,	6.2.1, 6.2.2, 6.2.5, 6.5.1, 6.7.1	
Geyser Guts (144)	6.4.1		
The Great Stony Book (150)	6.4.1		
Imagine! (157)	6.4.1, 6.5.2, 6.5.7, 6.6.1		
The Incredible Journey (161)	6.4.1, 6.5.2, 6.5.7, 6.6.1		
Just Passing Through (166)			6.3.16
Old Water (171)	6.1.1, 6.5.2, 6.6.1		6.1.16, 6.1.17
Piece It Together (174)	6.1.1, 6.4.1, 6.4.3, 6.4.5, 6.5.1, 6.5.3, 6.5.7, 6.6.1		6.3.6, 6.3.7, 6.3.8, 6.3.2
Poetic Precipitation (182)	6.4.1, 6.5.2, 6.5.6, 6.5.7		
Rainy-Day Hike (186)	6.1.1, 6.4.1		
Water Models (201)	6.1.1, 6.1.4, 6.4.1		6.3.7, 6.3.8
Wet Vacation (206)	6.4.3, 6.5.2, 6.5.3, 6.5.6, 6.5.7, 6.6.1		6.3.2, 6.3.3, 6.3.4, 6.3.6, 6.3.7, 6.3.8
Wetland Soils In Living Color (212)		6.5.1	
A-maze-ing Water (219)	6.4.1, 6.4.3, 6.5.2, 6.5.3, 6.5.6, 6.5.7, 6.6.1		
Common Water (232)	6.4.1		6.3.13, 6.3.14, 6.3.15, 6.3.16
A Drop In The Bucket (238)	6.7.11	6.2.3, 6.2.8, 6.5.1	
Energetic Water (242)		6.5.1	6.1.13, 6.5.5
Great Water Journeys (246)	6.1.1, 6.5.7, 6.6.1	6.5.1	6.1.11, 6.1.12, 6.1.16, 6.3.3, 6.3.15

	English/Language Arts	Mathematics	Social Studies
ACTIVITY			
Irrigation Interpretation (254)	6.1.1, 6.5.3, 6.5.7, 6.6.1, 6.7.11, 6.7.14		6.3.4, 6.3.11, 6.3.13, 6.3.15, 6.3.16
The Long Haul (260)	6.4.1, 6.7.10	6.5.1	6.5.5
Nature Rules! (262)	6.1.1, 6.4.1, 6.4.3, 6.4.8, 6.4.9, 6.4.10, 6.5.3, 6.5.6, 6.5.7, 6.6.1, 6.7.4, 6.7.5, 6.7.6, 6.7.7, 6.7.11, 6.7.14		6.3.15, 6.3.16
Sum Of The Parts (267)	6.5.2, 6.5.7, 6.6.1		6.3.13, 6.3.16
Water Meter (271)	6.4.1, 6.4.3, 6.6.1, 6.5.7	6.2.3, 6.5.1	
Water Works (274)	6.1.1, 6.4.1	6.5.1	6.3.13, 6.3.14
Where Are The Frogs? (279)	6.5.7, 6.6.1	6.6.1	6.3.16
AfterMath (289)	6.1.1, 6.4.1, 6.7.10, 6.7.14	6.2.3, 6.5.1, 6.6.1	6.3.14
Back To The Future (293)	6.1.1	6.6.1	6.3.11, 6.3.12, 6.3.14, 6.3.15
Every Drop Counts (307)	6.1.1, 6.4.1, 6.4.3, 6.5.2, 6.5.7, 6.6.1	6.2.3, 6.5.1	
A Grave Mistake (311)	6.1.1, 6.6.1	6.6.1	6.3.1, 6.3.13, 6.3.14, 6.5.5
Humpty Dumpty (316)	6.4.1, 6.5.2, 6.5.3, 6.5.6, 6.5.7, 6.6.1		6.3.13, 6.3.14
Macroinvertebrate Mayhem (322)	6.4.3, 6.4.5, 6.5.3, 6.5.6, 6.5.7, 6.6.1, 6.7.11		6.3.13, 6.3.14
Money Down The Drain (328)	6.4.1, 6.4.5	6.2.1, 6.2.2, 6.2.3, 6.5.1	
The Pucker Effect (338)	6.1.1, 6.4.3, 6.4.5, 6.5.2, 6.5.3, 6.6.1		6.3.13, 6.3.14
Reaching Your Limits (344)	6.4.1, 6.5.7	6.2.7	6.3.13, 6.3.14
Sparkling Water (348)	6.4.1, 6.5.6, 6.5.7		6.3.13, 6.3.14
Super Bowl Surge (353)			6.3.13

	English/Language Arts	Mathematics	Social Studies
ACTIVITY			
Wet-Work Shuffle (360)	6.1.1, 6.4.1, 6.5.7		
Choices And Preferences, Water Index (367)	6.4.1	6.2.1, 6.2.2, 6.6.1	6.3.13, 6.3.14
Dilemma Derby (377)	6.1.1, 6.4.1, 6.4.5		6.3.13, 6.3.14
Easy Street (382)	6.1.1	6.2.1, 6.5.1	6.5.5
Pass The Jug (392)		6.5.1	
Perspectives (397)	6.1.1, 6.4.1, 6.4.3, 6.4.5, 6.5.2, 6.5.3, 6.5.6, 6.5.7, 6.6.1, 6.7.11, 6.7.14		6.3.13, 6.3.14
Water: Read All About It! (400)	6.1.1, 6.4.1, 6.4.3, 6.4.5, 6.4.7, 6.4.8, 6.4.9, 6.5.2, 6.5.3, 6.5.6, 6.5.7, 6.6.1		6.3.6, 6.3.13, 6.3.14
Water Bill Of Rights (403)	6.4.1, 6.4.3, 6.5.2, 6.5.7, 6.7.11, 6.7.14		
Water Crossings (421)	6.1.1, 6.1.4, 6.5.1, 6.5.6, 6.5.7, 6.6.1		6.3.3, 6.3.15
What's Happening? (425)	6.4.1, 6.4.3, 6.4.5, 6.4.7, 6.5.3, 6.6.1, 6.7.11	6.2.1, 6.2.2	6.3.13, 6.3.14
Whose Problem Is It? (429)	6.4.1		6.3.13, 6.3.14
Raining Cats & Dogs (435)	6.1.1, 6.1.2		6.3.7, 6.3.8
The Rainstick (442)	6.1.1, 6.4.1		6.1.12
Water Celebration (446)	6.4.5, 6.5.6, 6.5.7		
Water Messages In Stone (454)	6.5.2, 6.6.1		
Water Write (457)	6.1.1, 6.3.6, 6.4.3, 6.5.1, 6.5.2, 6.5.6, 6.5.7, 6.6.1		
Wish Book (460)	6.4.4, 6.4.5		6.5.5

Grade 6

Standard 1

READING: Word Recognition, Fluency, and Vocabulary Development

Students use their knowledge of word parts and word relationships, as well as context clues (the meaning of the text around a word), to determine the meaning of specialized vocabulary and to understand the precise meaning of grade-level-appropriate words.

Decoding and Word Recognition

- 6.1.1 Read aloud grade-level-appropriate poems, narrative text (stories), and expository text (information) fluently and accurately and with appropriate timing, changes in voice, and expression.

WET Activities (page): 7, 12, 25, 30, 35, 54, 72, 79, 89, 93, 107, 122, 136, 171, 174, 186, 201, 246, 254, 262, 274, 289, 293, 307, 311, 338, 360, 377, 382, 397, 400, 421, 435, 442, 457

Vocabulary and Concept Development

- 6.1.2 Identify and interpret figurative language (including similes, comparisons that use *like* or *as*, and metaphors, implied comparisons) and words with multiple meanings.
Example: Understand the different meanings of the word *primary* when used in sentences, such as the following: *Tom is a student at the local primary school. Betsy's mother decided to run for a seat on the city council but lost in the primary election.* Understand descriptive metaphors, such as *The city lay under a blanket of fog.*

WET Activities (page): 435

- 6.1.4 Understand unknown words in informational texts by using word, sentence, and paragraph clues to determine meaning.

WET Activities (page): 54, 201, 421

- 6.1.5 Understand and explain slight differences in meaning in related words.
Example: Explain the difference when someone is described as speaking *softly* and when someone is described as speaking *quietly*.

WET Activities (page): 43

Standard 2

READING: Comprehension (Focus on Informational Materials)

*Students read and understand grade-level-appropriate material. They describe and connect the essential ideas, arguments, and perspectives of the text by using their knowledge of text structure, organization, and purpose. The selections in the **Indiana Reading List** (available online at www.doe.state.in.us/standards/readinglist.html) illustrate the quality and complexity of the materials to be read by students. At Grade 6, in addition to regular classroom reading, students read a variety of grade-level-appropriate narrative (story) and expository (informational and technical) texts, including*

classic and contemporary literature, poetry, magazines, newspapers, reference materials, and online information.

Structural Features of Informational and Technical Materials

- 6.2.1 Identify the structural features of popular media (newspapers, magazines, online information) and use the features to obtain information.
Example: Do a keyword search on the Internet to find information for a research report. Use the section headers for a newspaper to locate information for a report on current world events.

WET Activities (page): 12

Comprehension and Analysis of Grade-Level-Appropriate Text

- 6.2.3 Connect and clarify main ideas by identifying their relationships to multiple sources and related topics.
Example: Read about another culture in a magazine such as *Cricket* or *National Geographic*. Then, compare what was learned to descriptions of other peoples and cultures in other reading sources.

WET Activities (page): 7

- 6.2.4 Clarify an understanding of texts by creating outlines, notes, diagrams, summaries, or reports.
Example: Take notes while reading to create an outline or graphic organizer, such as a concept map, flow chart, or diagram, of the main ideas and supporting details from what is read. Read an informational book and summarize the main ideas.

WET Activities (page): 7, 12

Expository (Informational) Critique

- 6.2.7 Make reasonable statements and conclusions about a text, supporting them with accurate examples.
Example: Read some of the 28 poems in Lee Bennett Hopkins' *Been to Yesterdays: Poems of Life*, and draw conclusions about what the poet is saying about his experiences in the middle school years. Describe Leonardo da Vinci's greatest achievements, after reading *Leonardo da Vinci: Artist, Inventor, and Scientist of the Renaissance* by Francesca Romei.

WET Activities (page): 12, 25, 54

Standard 3

READING: Literary Response and Analysis

*Students read and respond to grade-level-appropriate historically or culturally significant works of literature that reflect and enhance their study of history and social science. They clarify the ideas and connect them to other literary works. The selections in the **Indiana Reading List** (available online at www.doe.state.in.us/standards/readinglist.html) illustrate the quality and complexity of the materials to be read by students.*

Narrative Analysis of Grade-Level-Appropriate Text

- 6.3.6 Identify and analyze features of themes conveyed through characters, actions, and images. Example: Analyze the way a theme is developed throughout a book, such as the themes of prejudice and criticism of others shown throughout the events and characters in *Summer of My German Soldier* by Bette Greene.

WET Activities (page): 457

Standard 4

WRITING: Process

Students discuss and keep a list of writing ideas and use graphic organizers to plan writing. They write clear, coherent, and focused essays. Students progress through the stages of the writing process and proofread, edit, and revise writing.

Organization and Focus

- 6.4.1 Discuss ideas for writing, keep a list or notebook of ideas, and use graphic organizers to plan writing.

WET Activities (page): 7, 12, 19, 85, 89, 93, 122, 144, 150, 157, 161, 174, 182, 186, 201, 219, 232, 260, 262, 271, 274, 289, 307, 316, 328, 344, 348, 360, 367, 377, 397, 400, 403, 425, 429, 442

- 6.4.2 Choose the form of writing that best suits the intended purpose.

WET Activities (page): 12

- 6.4.3 Write informational pieces of several paragraphs that:

- engage the interest of the reader.
- state a clear purpose.
- develop the topic with supporting details and precise language.
- conclude with a detailed summary linked to the purpose of the composition.

WET Activities (page): 12, 35, 43, 54, 72, 129, 174, 206, 219, 262, 271, 307, 322, 338, 397, 400, 403, 425, 457

- 6.4.4 Use a variety of effective organizational patterns, including comparison and contrast, organization by categories, and arrangement by order of importance or climactic order.

WET Activities (page): 7, 12, 89, 460

Research and Technology

- 6.4.5 Use note-taking skills.

WET Activities (page): 7, 12, 19, 79, 89, 107, 122, 174, 322, 328, 338, 377, 397, 400, 425, 446, 460

- 6.4.7 Use a computer to compose documents with appropriate formatting by using word-processing skills and principles of design, including margins, tabs, spacing, columns, and page orientation.

WET Activities (page): 400, 425

Evaluation and Revision

- 6.4.8 Review, evaluate, and revise writing for meaning and clarity.

WET Activities (page): 262, 400

- 6.4.9 Edit and proofread one's own writing, as well as that of others, using an editing checklist or set of rules, with specific examples of corrections of frequent errors.

WET Activities (page): 262, 400

- 6.4.10 Revise writing to improve the organization and consistency of ideas within and between paragraphs.

WET Activities (page): 262

Standard 5

WRITING: Applications (Different Types of Writing and Their Characteristics)

At Grade 6, students write narrative (story), expository (informational), persuasive, and descriptive texts (of at least 500 to 700 words). Student writing demonstrates a command of Standard English and the research, organizational, and drafting strategies outlined in Standard 4 — Writing Process. Writing demonstrates an awareness of the audience (intended reader) and purpose for writing.

In addition to producing the different writing forms introduced in earlier grades, such as letters, Grade 6 students use the writing strategies outlined in Standard 4 — Writing Process to:

- 6.5.1 Write narratives that:

- establish and develop a plot and setting and present a point of view that is appropriate to the stories.
- include sensory details and clear language to develop plot and character.
- use a range of narrative devices, such as dialogue or suspense.

Example: Write a short play that could be presented to the class. Rewrite a short story that was read in class, telling the story from another point of view.

WET Activities (page): 54, 174, 421, 457

- 6.5.2 Write descriptions, explanations, comparison and contrast papers, and problem and solution essays that:

- state the thesis (position on the topic) or purpose.
- explain the situation.
- organize the composition clearly.
- offer evidence to support arguments and conclusions.

Example: Write successive drafts of a one- or two-page newspaper article about summer sports camps, including details to support the main topic and allow the reader to compare and contrast the different camps described.

WET Activities (page): 12, 35, 43, 54, 79, 89, 116, 122, 129, 157, 161, 171, 182, 206, 219, 267, 307, 316, 338, 397, 400,

6.5.3 Write research reports that:

- pose relevant questions that can be answered in the report.
- support the main idea or ideas with facts, details, examples, and explanations from multiple authoritative sources, such as speakers, newspapers and magazines, reference books, and online information searches.
- include a bibliography.

Example: Write a research report on George Washington, explaining what Washington accomplished during his presidency and why he is such a significant figure in American history. Write a research report on Native American groups that lived in Indiana and the surrounding states. Include information on whether descendents of these groups still live in the area.

WET Activities (page): 12, 72, 79, 89, 174, 206, 219, 254, 262, 316, 322, 338, 397, 400, 425

6.5.5 Write persuasive compositions that:

- state a clear position on a proposition or proposal.
- support the position with organized and relevant evidence and effective emotional appeals.
- anticipate and address reader concerns and counterarguments.

Example: Write a persuasive essay on how the class should celebrate the end of the school year, including adequate reasons for why the class should participate in the activity described. Create an advertisement for a product to try to convince readers to buy the product.

WET Activities (page): 12

6.5.6 Use varied word choices to make writing interesting.

Example: Write stories, reports, and letters showing a variety of word choices. (Use *delicious* instead of *good*; *overcoat* or *parka* instead of *coat*.)

WET Activities (page): 182, 206, 219, 262, 316, 322, 348, 397, 400, 421, 446, 457

6.5.7 Write for different purposes and to a specific audience or person, adjusting tone and style as necessary.

Example: Write a review of a favorite book or film for a classroom writers' workshop. Use clear organization and careful word choices to help the readers of the review decide if they might be interested in reading the book or viewing the film.

WET Activities (page): 7, 12, 35, 43, 54, 72, 79, 89, 116, 129, 157, 161, 174, 182, 206, 219, 246, 254, 262, 267, 271, 279, 307, 316, 322, 344, 348, 360, 397, 400, 403, 421, 446, 457

Standard 6**WRITING: English Language Conventions**

Students write using Standard English conventions appropriate to this grade level.

Sentence Structure

6.6.1 Use simple, compound, and complex sentences; use effective coordination and subordination of ideas, including both main ideas and supporting ideas in single sentences, to express complete thoughts.

- Simple sentence: sentences with one subject and verb, such as *The pine tree is native to many parts of America.*
- Compound sentence: sentences with two equal clauses, such as *The giraffe has a long neck and long legs, but it is a very graceful animal.*
- Complex sentence: sentences that include one main clause and at least one subordinate clause, such as *I just sat at my desk, not knowing what to do next, although others around me were writing furiously.*

WET Activities (page): 7, 12, 35, 43, 54, 72, 79, 89, 116, 122, 129, 157, 161, 171, 174, 206, 219, 246, 254, 262, 267, 271, 279, 307, 311, 316, 322, 338, 397, 400, 421, 425, 454, 457

Standard 7

LISTENING AND SPEAKING: Skills, Strategies, and Applications

Students deliver focused, coherent presentations that convey ideas clearly and relate to the background and interests of the audience. They evaluate the content of oral communication. Students deliver well-organized formal presentations using traditional speech strategies, including narration, exposition, persuasion, and description. Students use the same Standard English conventions for oral speech that they use in their writing.

Organization and Delivery of Oral Communication

6.7.4 Select a focus, an organizational structure, and a point of view, matching the purpose, message, and vocal modulation (changes in tone) to the audience.

WET Activities (page): 7, 12, 85, 262

6.7.5 Emphasize important points to assist the listener in following the main ideas and concepts.

WET Activities (page): 7, 12, 262

6.7.6 Support opinions with researched, documented evidence and with visual or media displays that use appropriate technology.

WET Activities (page): 12, 262

6.7.7 Use effective timing, volume, tone, and alignment of hand and body gestures to sustain audience interest and attention.

WET Activities (page): 262

Speaking Applications

- 6.7.10 Deliver narrative (story) presentations that:
- establish a context, plot, and point of view.
 - include sensory details and specific language to develop the plot and character.
 - use a range of narrative (story) devices, including dialogue, tension, or suspense.

WET Activities (page): 260, 289

- 6.7.11 Deliver informative presentations that:
- pose relevant questions sufficiently limited in scope to be completely and thoroughly answered.
 - develop the topic with facts, details, examples, and explanations from multiple authoritative sources, including speakers, periodicals, and online information.

WET Activities (page): 7, 12, 25, 85, 238, 254, 262, 322, 397, 403, 425

- 6.7.12 Deliver oral responses to literature that:
- develop an interpretation that shows careful reading, understanding, and insight.
 - organize the presentation around several clear ideas, premises, or images.
 - develop and justify the interpretation through the use of examples from the text.

WET Activities (page): 25

- 6.7.13 Deliver persuasive presentations that:
- provide a clear statement of the position.
 - include relevant evidence.
 - offer a logical sequence of information.
 - engage the listener and try to gain acceptance of the proposition or proposal.

WET Activities (page): 12

- 6.7.14 Deliver presentations on problems and solutions that:
- theorize on the causes and effects of each problem.
 - establish connections between the defined problem and at least one solution.
 - offer persuasive evidence to support the definition of the problem and the proposed solutions.

WET Activities (page): 12, 85, 93, 254, 262, 289, 397, 403

Grade 6

In this technological age, mathematics is more important than ever. When students leave school, they are more and more likely to use mathematics in their work and everyday lives — operating computer equipment, planning timelines and schedules, reading and interpreting data, comparing prices, managing personal finances, and completing other problem-solving tasks. What they learn in mathematics and how they learn it will provide an excellent preparation for a challenging and ever-changing future.

The state of Indiana has established the following mathematics standards to make clear to teachers, students, and parents what knowledge, understanding, and skills students should acquire in Grade 6:

Standard 2 — Computation

Fluency in computation is essential. Students add, subtract, multiply, and divide fractions, decimals, and both positive and negative integers. They solve problems using ratios, proportions, and percentages, including calculating discount and interest. They use mental arithmetic to add or subtract simple fractions and decimals.

Standard 5 — Measurement

The study of measurement is essential because of its uses in many aspects of everyday life. Students measure in order to compare lengths, areas, volumes, weights, times, temperatures, etc. They learn about the number π and use it to calculate the circumference and area of circles. They construct models, find the volume and surface area of prisms and cylinders, and they convert temperatures between Celsius and Fahrenheit.

Standard 6 — Data Analysis and Probability

Data are all around us — in newspapers and magazines, in television news and commercials, in quality control for manufacturing — and students need to learn how to understand data. At this level, they learn how to display data in frequency tables and in stem-and-leaf plots. They compare the mean, median, and mode. They find probabilities for compound events and write them as fractions, decimals, and percentages. They also estimate the probabilities of future events.

Standard 7 — Problem Solving

In a general sense, mathematics is problem solving. In all mathematics, students use problem-solving skills: they choose how to approach a problem, they explain their reasoning, and they check their results. As they develop their skills with negative numbers, calculating angles, or finding areas, for example, students move from simple to more complex ideas by taking logical steps that build a better understanding of mathematics.

As part of their instruction and assessment, students should also develop the following learning skills by Grade 12 that are woven throughout the mathematics standards:

Communication

The ability to read, write, listen, ask questions, think, and communicate about math will develop and deepen students' understanding of mathematical concepts. Students should read text, data, tables, and graphs with comprehension and understanding. Their writing should be detailed and coherent, and they should use correct mathematical vocabulary. Students should write to explain answers, justify mathematical reasoning, and describe problem-solving strategies.

Reasoning and Proof

Mathematics is developed by using known ideas and concepts to develop others. Repeated addition becomes multiplication. Multiplication of numbers less than ten can be extended to numbers less than one hundred and then to the entire number system. Knowing how to find the area of a right triangle extends to all right triangles. Extending patterns, finding even numbers, developing formulas, and proving the Pythagorean Theorem are all examples of mathematical reasoning. Students should learn to observe, generalize, make assumptions from known information, and test their assumptions.

Representation

The language of mathematics is expressed in words, symbols, formulas, equations, graphs, and data displays. The concept of one-fourth may be described as a quarter, $\frac{1}{4}$, one divided by four, 0.25, $\frac{1}{8} + \frac{1}{8}$, 25 percent, or an appropriately shaded portion of a pie graph. Higher-level mathematics involves the use of more powerful representations: exponents, logarithms, π , unknowns, statistical representation, algebraic and geometric expressions. Mathematical operations are expressed as representations: +, =, divide, square. Representations are dynamic tools for solving problems and communicating and expressing mathematical ideas and concepts.

Connections

Connecting mathematical concepts includes linking new ideas to related ideas learned previously, helping students to see mathematics as a unified body of knowledge whose concepts build upon each other. Major emphasis should be given to ideas and concepts across mathematical content areas that help students see that mathematics is a web of closely connected ideas (algebra, geometry, the entire number system). Mathematics is also the common language of many other disciplines (science, technology, finance, social science, geography) and students should learn mathematical concepts used in those disciplines. Finally, students should connect their mathematical learning to appropriate real-world contexts.

Standard 2 Computation

Students solve problems involving addition, subtraction, multiplication, and division of integers. They solve problems involving fractions, decimals, ratios, proportions, and percentages.

- 6.2.1 Add and subtract positive and negative integers.

Example: $17 + -4 = ?$, $-8 - 5 = ?$.

WET Activities (page): 136, 328, 367, 382, 425

- 6.2.2 Multiply and divide positive and negative integers.

Example: Continue the pattern: $3 \times 2 = ?$, $2 \times 2 = ?$, $1 \times 2 = ?$, $0 \times 2 = ?$, $-1 \times 2 = ?$, $-2 \times 2 = ?$, etc.

WET Activities (page): 136, 328, 367, 425

- 6.2.3 Multiply and divide decimals.

Example: $3.265 \times 0.96 = ?$, $56.79 \div 2.4 = ?$.

WET Activities (page): 238, 271, 289, 307, 328

- 6.2.5 Solve problems involving addition, subtraction, multiplication, and division of positive fractions and explain why a particular operation was used for a given situation.

Example: You want to place a towel bar $9\frac{3}{4}$ inches long in the center of a door $27\frac{1}{2}$ inches wide. How far from each edge should you place the bar? Explain your method.

WET Activities (page): 136

- 6.2.7 Understand proportions and use them to solve problems.

Example: Sam made 8 out of 24 free throws. Use a proportion to show how many free throws Sam would probably make out of 60 attempts.

WET Activities (page): 344

- 6.2.8 Calculate given percentages of quantities and solve problems involving discounts at sales, interest earned, and tips.

Example: In a sale, everything is reduced by 20%. Find the sale price of a shirt whose pre-sale price was \$30.

WET Activities (page): 238

Standard 5

Measurement

Students deepen their understanding of the measurement of plane and solid shapes and use this understanding to solve problems. They calculate with temperature and money, and choose appropriate units of measure in other areas.

- 6.5.1 Select and apply appropriate standard units and tools to measure length, area, volume, weight, time, temperature, and the size of angles.

Example: A triangular sheet of metal is about 1 foot across. Describe the units and tools you would use to measure its weight, its angles, and the lengths of its sides.

WET Activities (page): 25, 30, 79, 116, 136, 212, 238, 242, 246, 260, 271, 274, 289, 307, 328, 382, 392

Standard 6

Data Analysis and Probability

Students compute and analyze statistical measures for data sets. They determine theoretical and experimental probabilities and use them to make predictions about events.

- 6.6.1 Organize and display single-variable data in appropriate graphs and stem-and-leaf plots*, and explain which types of graphs are appropriate for various data sets.

Example: This stem-and-leaf diagram shows a set of test scores for your class:

Stem	Leaf
6	2 3 7
7	1 5 5 6 8 9
8	0 1 1 2 3 3 5 7 8 8
9	1 2 2 3 3 4

Find your score of 85 in this diagram. Are you closer to the top or the bottom of the class on this test?

WET Activities (page): 30, 43, 79, 116, 279, 289, 293, 311, 367

Standard 7

Problem Solving

Students make decisions about how to approach problems and communicate their ideas.

- 6.7.1 Analyze problems by identifying relationships, telling relevant from irrelevant information, identifying missing information, sequencing and prioritizing information, and observing patterns.
Example: Solve the problem: “Develop a method for finding all the prime numbers up to 100.” Notice that any numbers that 4, 6, 8, ... divide into also divide exactly by 2, and so you do not need to test 4, 6, 8,

WET Activities (page): 136

GRADE 6

Peoples, Places, and Cultures in Europe and the Americas

Students in Grade 6 study the regions and countries of Europe and the Americas, including geographical, historical, economic, political, and cultural relationships. The areas emphasized are Europe and North and South America, including Central America and the Caribbean.

The Indiana's K – 8 academic standards for social studies are organized around five content areas. The content area standards and the types of learning experiences they provide to students in Grade 6 are described below. On the pages that follow, age-appropriate concepts are listed underneath each standard. Skills for thinking, inquiry, and participation in a democratic society are integrated throughout. Specific terms are defined and examples are provided when necessary.

Standard 1 — History

Students will examine the key historic movements, events, and figures that contributed to the development of the modern European and American nations from early civilizations to early modern times.

Standard 3 — Geography

Students will identify the characteristics of climate regions in Europe and the Americas and describe major physical features, countries, and cities of Europe and the Western Hemisphere.

Standard 5 — Individuals, Society, and Culture

Students will examine the role of individuals and groups in societies of Europe and the Americas, identify connections among cultures, and trace the influence of cultures of the past on present societies. They will also analyze patterns of change, including the impact of scientific and technological innovations, and examine the role of artistic expression in selected cultures of Europe and the Americas.

Standard 1 History

Students will examine the key historic movements, events, and figures that contributed to the development of the modern European and American nations from early civilizations to early modern times.

Historical Knowledge

- 6.1.11 Analyze the interconnections of people, places, and events in the economic, scientific, and cultural exchanges that led to the European Renaissance and voyages of discovery.

WET Activities (page): 246

- 6.1.12 Describe the development of Spain during and after the defeat of the Muslims and the completion of the “re-conquest” in 1492.

WET Activities (page): 246, 442

Chronological Thinking, Comprehension, Analysis, and Interpretation

- 6.1.16 Develop and compare timelines that identify major people, events, and developments in the history of individual civilizations and/or countries that comprise Europe and the Americas.

WET Activities (page): 171, 246

- 6.1.17 Use the terms *decade*, *century*, and *millennium* and compare alternative ways that historical periods and eras are designated by identifying the organizing principles upon which each is based.

WET Activities (page): 171

- 6.1.19 Analyze cause-and-effect relationships, keeping in mind multiple causation, including the importance of individuals, ideas, human interests, beliefs, and chance in history.

WET Activities (page): 12

Research Capabilities

- 6.1.21 Form research questions and use a variety of information resources* to obtain, evaluate, and present historical data on the people, places, events, and developments in the history of Europe and the Americas.

Example: Collect data and develop maps, graphs, or spread sheets showing the impact of the Black Death on the population of Europe.

- information resources: print media, such as books, magazines, and newspapers; electronic media, such as radio, television, Web sites, and databases; and community resources, such as individuals and organizations

WET Activities (page): 12

Standard 3

Geography

Students will identify the characteristics of climate regions in Europe and the Americas and describe major physical features, countries and cities of Europe and the Western Hemisphere.

The World in Spatial Terms

- 6.3.1 Explain the components of most maps (title, scale, legend, grid, and projection). Compare different map types (topographic, thematic, etc.) and different map projections, and explain the appropriate use for each.

WET Activities (page): 311

- 6.3.2 Use latitude and longitude to locate places on Earth and describe the uses of locational technology, such as Global Positioning Systems (GPS)* and Geographic Information Systems (GIS)*.

* Global Positioning Systems (GPS): a system of satellites and ground stations used to locate precise points on the surface of Earth

- Geographic Information Systems (GIS): information technology systems used to store, analyze, manipulate, and display a wide range of geographic information

WET Activities (page): 174, 206

Places and Regions

- 6.3.3 Identify the names and locations of countries and major cities in Europe and the Western Hemisphere. Identify the states of Mexico and the provinces of Canada.

WET Activities (page): 107, 206, 246, 421

- 6.3.4 Describe major physical characteristics* of regions in Europe and the Americas.

WET Activities (page): 206, 254

Physical Systems

- 6.3.6 Explain how Earth/sun relationships*, ocean currents, and winds influence climate differences on Earth.

WET Activities (page): 174, 206, 400

- 6.3.7 Locate and map the climate regions of Europe and the Western Hemisphere. Describe the characteristics of each and explain how they differ.

WET Activities (page): 174, 201, 206, 435

- 6.3.8 Identify major biomes* and explain ways in which the natural environment of places in Europe and the Americas relates to their climate, which is influenced by Earth/sun relationships.

* Earth/sun relationships: the rotation and tilt of Earth on its axis and the revolution of Earth around the sun influence climate variation on Earth; Indiana has major seasonal differences in climate relating to changes in the position of the sun and the amount of sunlight received

- biomes: major ecological communities, such as rainforest, desert, grassland

WET Activities (page): 174, 201, 206, 435

Human Systems

- 6.3.11 Research the reasons for the locations of the major manufacturing and agricultural regions of Europe and the Americas, using a variety of information resources*.

- information resources: print media, such as books, magazines, and newspapers; electronic media, such as radio, television, Web sites, and databases; and community resources, such as individuals and organizations

WET Activities (page): 254, 293

Environment and Society

- 6.3.12 Analyze the distribution of natural resources in Europe and the Western Hemisphere.

WET Activities (page): 293

- 6.3.13 Analyze and give examples of the consequences of human impact on the physical environment and evaluate ways in which technology influences human capacity to modify the physical environment.

WET Activities (page): 12, 232, 242, 254, 267, 274, 311, 316, 322, 338, 344, 348, 353, 367, 377, 397, 400, 425, 429

- 6.3.14 Give examples of how both natural and technological hazards have impacted the physical environment and human populations in specific areas of Europe and the Americas.

WET Activities (page): 12, 232, 274, 289, 293, 311, 316, 322, 338, 344, 348, 367, 377, 397, 400, 425, 429

Uses of Geography

- 6.3.15 Give examples of how land and water forms, climate, and natural vegetation have influenced historical trends and developments in Europe and the Western Hemisphere.

WET Activities (page): 12, 232, 246, 254, 262, 293, 421

- 6.3.16 Identify environmental issues that affect Europe and the Americas. Examine contrasting perspectives on these problems and explain how human-induced changes in the physical environment in one place cause changes in another place.
Example: Acid rain, air and water pollution, deforestation.

WET Activities (page): 12, 166, 232, 254, 262, 267, 279

Standard 5

Individuals, Society, and Culture

Students will examine the role of individuals and groups in societies of Europe and the Americas, identify connections among cultures, and trace the influence of cultures of the past on present societies. They will also analyze patterns of change, including the impact of scientific and technological innovations, and examine the role of artistic expression in selected cultures of Europe and the Americas.

- 6.5.5 Identify examples of inventions and technological innovations that have brought about cultural change in Europe and the Americas and examine their impact.
Example: Innovations in communications, such as computer technology, help to spread information and ideas very rapidly. One result may be an increase in the rate of cultural change.

WET Activities (page): 242, 260, 311, 382, 460